

**IN THE SPECIFICATION:**

Please amend the substitute specification as follows:

**In the Title:**

Please delete the title in its entirety and insert therefor:

-- Method for Fabrication of Polycrystalline Silicon Thin Film Transistors--.

Please replace the paragraph beginning at page 3, line 1, with the following rewritten paragraph:

A method for fabrication of polycrystalline silicon thin film transistors comprising the steps of:

- a) selecting a substrate;
- b) forming a buffer oxide on the substrate;
- c) depositing a first amorphous silicon film on the buffer oxide;
- d) depositing a low-temperature oxide on the amorphous silicon film, ~~and wherein the low temperature oxide~~ forming a stop layer of silicon film for dry etching after step d) ~~process~~, and a thermal insulating layer ~~of for~~ laser annealing ~~or of~~ a hard mask ~~of the preventing~~ removal of a polysilicon spacer after recrystallization;
- e) etching the amorphous silicon film by photoresist utilizing a hard mask on the low temperature polycrystalline silicon thin film transistor (LTPS-TFT) as a active layer, and then using a solution of ~~silicon dioxide of~~ for wet isotropic etching of the amorphous silicon films to slightly perform ~~on an~~ inner etching of the buffer oxide before or after the removal of the hard mask; and
- f) depositing another amorphous silicon film by connecting the active layer amorphous silicon film, and then forming the polysilicon spacer by dry etching ~~behind~~ on either side of the active layer of the low temperature polycrystalline silicon thin film transistor (LTPS-TFT), and then forming large silicon grain structures of the active layer by recrystallization of high-energy continuous wavelength laser or recrystallization of excimer laser annealing on dog-bone

shape active layer.

Please replace the paragraph beginning at page 4, line 14, with the following rewritten paragraph:

FIGS. 1-3 are schematic cross sections of an essential portion illustrating a process for manufacturing low temperature polycrystalline silicon thin film transistors (LTPS-TFT) comprising the steps of:

- a) selecting a substrate 1;
- b) forming a buffer oxide 2 ~~formed~~ on said substrate 1;
- c) depositing a first amorphous silicon film 3 (active layer) on the buffer oxide 2;
- d) depositing a low temperature oxide 4 on the first amorphous silicon film 3, ~~wherein the low temperature oxide 4~~ and forming a stop layer of silicon film for dry etching after step d), and a thermal insulating layer for laser annealing of a hard mask preventing removal of a polysilicon spacer after recrystallization (step f);
- e) etching the amorphous silicon film 3 by photoresist 5 utilizing a hard mask on the low temperature oxide, and then using a solution for wet isotropic etching of the amorphous silicon films to slightly go toward inner etching of the buffer oxide 2 before or after the removal of the hard mask;
- f) depositing another amorphous silicon film 3a by connecting the amorphous silicon film 3, and then forming the polysilicon spacer 7 by dry etching 8 on either side of the another amorphous silicon film 3a and the amorphous silicon film 3. The polysilicon spacer 7 is selected from the group consisting of polycrystalline silicon film and amorphous silicon film. The polysilicon spacer 7 can replace the dielectric material with oxide, nitride, and metal oxide, etc. and metal material with aluminum (Al), wolfram (W), molybdenum (Mo) and chromium (Cr), etc. And then can choose to cancel the polysilicon spacer 7 or not for the next process. The polysilicon spacer 7 is formed on either side of the active layer (amorphous

silicon film 3) of the low temperature polycrystalline silicon thin film transistor (LTPS-TFT), and then form large silicon grain structures of the active layer 3 according to a direction of grain growth 15 by recrystallization of high-energy continuous wavelength laser or recrystallization of excimer laser annealing 9 on dog-bone shape active layer as shown in FIG. 3. Therefore, the active layer generates a temperature gradient.

Please replace the paragraph beginning at page 6, line 1, with the following rewritten paragraph:

FIG.4, shows the relative position of gate 10, source 11, and ~~drain~~<sup>12</sup> drain 12 to be surrounded by the side of active layer (amorphous silicon film 3) and the polysilicon spacer 7. Next, FIG. 5 is a scanning electron microscope (SEM) of silicon grain structures with silicon film thickness at 500 angstrom and line width at 2 microns after excimer laser annealing (ELA). It is clear that the elongated silicon grains measure over 1 micron with direction to side of active layer. Because the laser can't melt the thick boundary of active layer and can easily melt thin channel, and then the silicon grain trigger inner recrystallization by the spacer seed of the polysilicon spacer 7. Moreover, it also efficiently overcomes shrinkage effect of active layer caused by surface tension after melting of silicon film. Thus, the present invention is to efficiently improve the self-heating effect by forming a thick polysilicon spacer 7 without an extra mask on a side of the channel. FIG. 6 is a schematic view showing the active layer position with a dog-bone shape 13 and a scanning direction 14 of a continuous-wavelength laser for recrystallization utilizing the continuous-wavelength laser according to embodiment of the present invention.